REMARKS

Claims 1 and 22 have been amended. Claims 1-39 remain in the application for consideration. In view of the following remarks, Applicant respectfully requests that the rejections be withdrawn and the application be forwarded on to issuance.

Examiner Communication

Applicant previously attempted to arrange for an interview with the Examiner on this application. Unfortunately, an interview was never able to be arranged. Applicant respectfully requests that the Examiner telephone the undersigned representative prior to issuing a subsequent Office Action.

Non-Statutory Double Patenting

Claims 1-39 are provisionally rejected on the grounds of non-statutory double patenting over claims 1-32 of U.S. Patent No. 6,768,499 as well as over the claims of various co-pending applications.

Applicant respectfully requests that these rejections be held in abeyance until the indication of allowable subject matter.

Specification

The Specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. In making out the rejection of the Specification, the Office argues that "the specification fails to provide proper antecedent basis for the claimed terminology 'computer-readable media' and 'computer-readable medium'. Applicant respectfully disagrees.

The Specification, as originally filed, state (pages 11-12):

> [The] computer typically includes a variety of computer readable media. Such media may be any available media that is locally and/or remotely accessible by [the] computer, and it includes both volatile and non-volatile media, removable and non-removable media.
>
> In Fig. 2, the system memory includes computer readable media in the form of volatile, such as random access memory (RAM), and/or non-volatile memory, such as read only memory (ROM). A basic input/output system (BIOS), containing the basic routines that help to transfer information between elements within computer, such as during start-up, is stored in ROM. RAM typically contains data and/or program modules that are immediately accessible to and/or presently be operated on by processing unit(s).
>
> Computer may further include other removable/non-removable, volatile/non-volatile computer storage media. By way of example only, Fig. 2 illustrates a hard disk drive for reading from and writing to a non-removable, non-volatile magnetic media (not shown and typically called a "hard drive"), a magnetic disk drive for reading from and writing to a removable, non-volatile magnetic disk (e.g., a "floppy disk"), and an optical disk drive for reading from or writing to a removable, non-volatile optical disk such as a CD-ROM, DVD-ROM or other optical media. The hard disk drive, magnetic disk drive 230, and optical disk drive are each connected to bus by one or more interfaces.
>
> The drives and their associated computer-readable media provide nonvolatile storage of computer readable instructions, data structures, program modules, and other data for computer. Although the exemplary environment described herein employs a hard disk, a removable magnetic disk and a removable optical disk, it should be appreciated by those skilled in the art that other types of computer readable media which can store data that is accessible by a computer, such as magnetic cassettes, flash memory cards, digital video disks, random access memories (RAMs), read only memories (ROM), and the like, may also be used in the exemplary operating environment.

Accordingly, in this excerpt as throughout the document, it is evident that the Specification provides proper antecedent basis for the claimed subject matter.

In view of the above discussion, the Specification does indeed provide a proper antecedent basis for the claimed subject matter. Applicant respectfully submits that the Specification complies with MPEP § 608.01(o) and that the rejection should be withdrawn.

§ 101 Rejections

Claims 3, 4, 6, 7, 9, 10, 12, 13, 15, 16, 18, 19, 20, 21, 24, 25, 27, 28, 30, 31, 33-39 stand rejected under 35 U.S.C. §101 as allegedly being directed to non-statutory subject matter. In making out the rejection of these claims, the Office argues that "[t]he phrases "computer-readable media" and "computer-readable medium" are not limited from non-statutory subject matter such as transmission waves."

The Office rejects claims 37-39, arguing that "[t]he claims recite a data structure. Data structure is non-statutory subject matter."

First, nowhere in the Specification does Applicant describe the notion of a transmission wave. Applicant is simply at a loss to understand where the Office has found this material. Applicant respectfully submits that it is a well known canon of claim construction that claims are to be interpreted in light of the Specification. This being the case, Applicant respectfully refers to the Office to page 10, line 1 through page 15, line 2. There, all descriptions of computer-readable media pertain to tangible statutory subject matter. As such, Applicant respectfully submits that the Office's rejection is traversed.

With regard to the Office's rejection of claims 37-39, Applicant respectfully submits that a data structure is indeed statutory subject matter. Applicant is unaware of any case that holds that a data structure is non-statutory.

Applicant conducted a cursory search of the Office's own database and found well over 1000 issued patents that include claims that contain the recitation "a data structure comprising". For example, the Office is respectfully referred to claim 29 of U.S. Patent No. 7,123,974 and claim 34 of U.S. Patent No. 7,117,433 for examples of claimed data structures. Applicant also respectfully refers the Office to the case of *In re Lowry*, 32 F.3d 1579 (Fed Cir. 1994) which affirmed the Board's holding that a claim directed to a data structure is an article of manufacture and hence, statutory.

In view of the above discussion, Applicant respectfully traverses the Office's rejections.

§ 102 and § 103 Rejections

Claims 1-36 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Application Publication 2002/0023103 to Gagne.

Claims 37 and 39 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5194952 to Pelley.

Claim 38 is rejected over 35 U.S.C. §103(a) as being obvious under Pelley in view of Gagne.

The Claims

Claim 1 has been amended, and as amended recites a multi-media processing method comprising (emphasis added):

- providing multiple tracks each of which being capable of being associated with one or more digital streams;
- representing the multiple tracks as a single track; and

- ***processing the digital data associated with the single track using a programmable software-implemented matrix switch in which multiple inputs can be routed to multiple outputs.***

In making out the rejection of this claim the Office argues that claim 1 is anticipated by Gagne. Applicant respectfully disagrees. In order to further clarify claim 1, this claim has been amended to recite ***processing the digital data associated with the single track using a programmable software-implemented matrix switch in which multiple inputs can be routed to multiple outputs***. Gagne does not teach or suggest any such subject matter.

To assist the Office in appreciating the claimed subject matter, the Office is referred to the following excerpt from Applicant's Specification.

Applicant Specification, Page 17 and 18

> ...[T]he matrix switch is comprised of a scalable plurality of input(s) and a scalable plurality of output(s), wherein any one or more of the input(s) may be iteratively coupled to any one or more of the output(s), based on the content of the matrix switch programming grid, automatically generated by [the] render engine...
>
> As introduced above, the inputs and outputs of [the] matrix switch are interfaces which facilitate the time-sensitive routing of data (e.g., media content) in accordance with a user defined development project. [The] [m]atrix switch has a scalable plurality of inputs and outputs, meaning that the number of inputs and outputs are individually generated to satisfy a given editing project.

Gagne is devoid of any such subject matter. Accordingly, the Office's rejection of this claim is traversed.

Claims 2-21 depend from claim 1 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited

features which, in combination with those recited in claim 1, are neither disclosed nor suggested by the reference of record.

Claim 22 has been amended, and as amended recites a method comprising (emphasis added):

> - providing multiple tracks each of which being capable of being associated with one or more digital data streams;
> - grouping a particular set of operations on the tracks to provide a group upon which operations can be performed that do not affect tracks that are not in the group;
> - ***wherein said grouping comprises defining a first hierarchical tree structure that represents a media project of which the tracks comprise a part; and***
> - ***using the hierarchical tree structure to program a software implemented matrix switch configured to process content of said tracks.***

In making out the rejection of this claim, the Office argues that Gagne anticipates claim 22. Applicant respectfully disagrees. This claim has been amended to clarify grouping of a particular set of operations on tracks ***wherein said grouping comprises defining a first hierarchical tree structure that represents a media project of which the tracks comprise a part and using the hierarchical tree structure to program a software implemented matrix switch configured to process content of said tracks.***

To assist the Office in appreciating the claimed subject matter, the Office is referred to the following excerpt from Applicant's Specification.

Applicant's Specification, Page 44-46

> To provide flexibility and efficiency for multi-media editing projects, the notion of a composite or composition is introduced. A composite or composition can be considered as a representation of an editing project as a single track. Recall that editing projects can

have one or more tracks, and each track can be associated with one or more sources that can have effects applied on them or transitions between them. In addition, compositions can be nested inside one another…

…Compositions are useful because they allow the grouping of a particular set of operations on one or more tracks. The operation set is performed on the grouping, and does not affect tracks that are not within the grouping. To draw an analogy, a composition is similar in principle to a mathematical parenthesis. Those operations that appear within the parenthesis are carried out in conjunction with those operations that are intended to operate of the subject matter of the parenthesis. The operations within the parenthesis do not affect tracks that do not appear within the parenthesis.

In accordance with [this] processing…, a first data structure is defined that represents the editing project. Fig. 30 shows an exemplary data structure in the form of a hierarchical tree structure…

Next, [the] data structure is processed to provide a second data structure that is configured to program the matrix switch. Note that as the data structure is being programmed, a matrix switch is being built and configured at the same time.

Gagne simply does not disclose or suggest this subject matter. Accordingly, for at least this reason, this claim is allowable.

Claims 23-36 depend from claim 22 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 22, are neither disclosed nor suggested by the reference of record.

Claim 37 recites a data structure embodied on a computer readable medium, the data structure comprising (emphasis added):

- one or more portions associated with at least one track of a multi-media editing project, individual tracks being associated with one or more data stream sources; and

- one or more portions associated with a composite, the composite comprising at least one track, said data structure being configured for use in programming a ***software implemented matrix switch*** which is configured to provide a data stream defined by the multi-media editing project.

In making out the rejection of this claim, the Office argues that Pelley anticipates claim 37. Applicant respectfully disagrees.

The Office refers to several excerpts of the Pelley Specification in support of its rejection. These excerpts are reproduced below for the Office's convenience.

> Referring to FIG. 2, there is shown in greater detail the system chassis. The system chassis comprises a matrix switch. The matrix switch receives input video signals and provides output video signals therefrom. The type of inputs which can be received by the matrix switch and the type of output which can be provided by the matrix switch will be discussed hereinafter. (Column 3, lines 52-59).
>
> The system chassis also comprises a first mix effect unit (designated: ME A) and a second ME unit (designated: ME B). In addition, the system chassis comprises a Down Stream Keyer (DSK) unit. The ME units and the DSK unit receive the output video signals from the matrix switch. Associated with each ME unit and the DSK unit is a variable depth First-In First-Out (FIFO) memory unit whose depth can be changed and controlled. The video signal to each ME unit or DSK unit is first supplied to the adjustable FIFO, the output of which is then supplied to the associated ME or DSK unit. The system chassis also comprises a system controller. The system controller controls the FIFO memory units, and the matrix switch, and is in communication with a FISHNET interface which is the interface to the communication bus.
>
> Since the amount of delay of a video signal in each of the FIFO units can be adjusted, the amount of delay of the video signal supplied as input to each ME unit can be controlled. (Column 3, line 60 through column 4, line 11).

Fill 1 send; Key 1 send; Fill 2 send; Key 2 send; External Processing Signal for ME unit 22: Fill 1 send; Key 1 send; Fill 2 send; Key 2 send; Output of ME unit 20; Output of ME unit 22; Main program; Main preset; Color background generator (CBG) (3 inputs); (From ME A CBG) (From ME B CBG) (From DSK CBG) Test; Black; Slate; Spares (3 inputs).

The user video/key inputs can be any combination of video and/or key signals. As previously stated, a key signal is a video signal which is to be superimposed on top of a video signal indicating the position within the image represented by the video signal which is to be replaced by the fill signal. The inputs can be any combination of D2 inputs, which are standard industry recognized parallel format digital composite video signals. In addition, the inputs can also be analog inputs which can be analog composite color television signals such as NTSC or analog color component signals such as RGB. The analog color composite signals such as NTSC are converted to D2 parallel format digital video signal. The conversion of the analog color component signals, such as RGB, will be described herein after. (Column 5, lines 31-65).

The ME unit comprises a wipe generator which generates wipe pattern size, aspect ratio, rotation, and perspective. The switch transition can have a variable thickness border. The border can be filled with a color furnished by the wipe border color generator. In addition, the wipe transition edge is variable from hard to soft on both the outside and inside edge of the wipe pattern. The wipe generator is shown in greater detail in FIGS. 27(a-f). (Column 6, lines 60-68).

The computer generates the various control signals that are used to control the ME units and the DSK unit, and the matrix switch. In addition, the controller also comprises a small picture processor, which receives various video signals and compresses them to images whose size is less than a full screen image. The small picture processor is in communication with the computer. (Column 10, line 66 through column 11, line 5).

The analog composite video signal, such as NTSC, is first digitized, at a 14.3 MHz rate. The digitized composite video signal is then used as the main program signal and is supplied to the mixer. The associated color component signals comprising of RGB or Y, R-Y and B-Y, are supplied to the chroma keyer unit. The chroma keyer unit digitizes the R-Y and B-Y color component difference signals

each at the rate of 7.15 MHz, alternatingly, to provide a digitized color component difference signal (alternating between R-Y and B-Y) at the 14.3 MHz rate, the same rate as the digitized composite video signal. A horizontal sync pulse and a unique code word are added to the digitized color component signal with the result supplied to the key processor and to the keyer unit, to produce a mix effect signal therefrom. (Column 16, lines 15-30)

In video processing, it is well known to use a T-bar as a user input device. A T-bar is shown as a part of the system. The T-bar, however, is a linear device in that the motion of the T-bar progresses from one end to another end in a linear fashion to produce a corresponding linear signal. Referring to FIG. 25b there is shown the motion of a T-bar as a function of distance d travelled by the T-bar and the signal generated therefrom.

With the system, the user can also display a plurality of different types of transitions on the display. A transition is a change from one source of video signal to another source. The user first selects one of a plurality of pre-stored shapes of non-linear transitions. The pre-stored shapes can include shapes such as a parabola, an exponential or even a spline.

Thereafter, the user, through the encoders, can graphically alter the displayed non-linear spline transition. FIGS. 25a-1 through 25a-3 are representative images of non-linear transitions which can be manipulated by the user using the encoders as inputs thereof.

With the user having defined the non-linear transition desired, the HLC processor through its accompanying software, can map the motion of the T-bar to the transition graphically displayed on the display. In other words, the HLC processor receives the linear signal generated by the T-bar but converts the linear signal into a non-linear signal, which is graphically represented on the display thereby rendering the effect of a linearly movable switch device, a T-bar, having the capability of generating a non-linear signal. The resultant transition signal is used by the mixer to mix the two video signals supplied thereto, to provide the transition.

In addition to generating a linear transition signal from an input device, such as a T-bar, the user can also activate a button which in turn generates a linear signal without further user input. The system can receive the linear signal generated by, for example, the button, and map the linear signal to the non-linear signal on the display. The non-linear signal is then used to provide the transition. (Column 24, line 44 through column 25, line 17).

The Office argues that Pelley teaches "a computer implemented system comprising a data structure embodied on a computer readable medium, the data structure comprising: one or more portions associated with at least one track of a multi-media editing project, individual tracks being associated with one or more data stream sources; and one or more portions associated with a composite, the composite comprising at least one track, said data structure being configured for use in programming software-implemented matrix switch which is configured to provide a data stream defined by the multi-media editing project."

Applicant has reviewed the subject matter disclosed in Pelley along with the above-cited excerpts and respectfully disagrees with the Office's rejection. Pelley does not disclose or suggest the use of a data structure as recited in this claim. In fact, at no point does the phrase "data structure" appear in Pelley. The absence of this phrase is understandable for the reason that Pelley does not disclose or suggest a data structure as that term is utilized in this claim. If the Office disagrees, Applicant respectfully asks the Office to point to the specific portions in Pelley that the Office believes specifically disclose a data structure. Applicant submits that the Office will be unable to do so. As such, the Office's rejection is traversed.

Accordingly, for at least this reason, this claim is allowable.

Claims 38 and 39 depend from claim 37 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 39, are neither

disclosed nor suggested by the references of record. In addition, given the allowability of claim 37, the rejection of claim 38 over the combination with Gagne is not seen to add anything of significance.

Conclusion

The claims are in condition for allowance. Accordingly, Applicant requests a Notice of Allowability be issued forthwith. If the Office's next anticipated action is to be anything other than issuance of a Notice of Allowability, Applicant respectfully requests a telephone call for the purpose of scheduling an interview.

Respectfully submitted,

Dated: 12/21/06

By: _____
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